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New Ketosis Test Developed

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fluid, have been reported (14). Microscopically, edema, congestion, and foci of chronic inflammation were reported. In some areas of the lung, the majority of the alveoli and bronchioles were filled with oval, straw-colored eggs. Slight fibrosis and giant cell proliferation had taken place around the parasite eggs.

This microscopic appearance was similar to that observed in our canine cases, with the notable exception that both of our cases also had proliferation of the bronchial epithelium. The suppurative and hemorrhagic reaction seen in one lesion from case 2 suggested a recent entry into the tissue by this fluke. Whether this fluke was actively migrating or had passively escaped from a nearby nodule was not known.

There appears to be a difference between the dog and cat in their response to *P. kelliocotti*. In our feline case, there was hyperplasia of the bronchial glands and hypertrophy of the vascular media, neither of which appeared to be prominent in canine cases seen by Nielsen (14) or us. Fluke eggs, when present in the parenchyma seem to incite a granulomatous reaction in both the dog and cat in long-standing cases.

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New Ketosis Test Developed

A test for ketosis that is two to three times more sensitive than any field test on the market today has been developed by Michigan State University scientists.

The new method of detection will be thoroughly studied to determine its effectiveness under actual farm conditions. At present, all ketosis tests require taking urine or milk samples on the farm, but they are not nearly as sensitive as the MSU test. The scientists report that the new test can be made on either urine, blood or milk, and it might possibly be made by the farmer himself under the

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were composed almost entirely of large accumulations of organisms (Fig. 3). Capillary proliferation with mild perivascular lymphocyte and macrophage accumulations were noted between these large collections of *Cryptococcus neoformans*. Fibrosis was not prominent in the cutaneous lesion. In areas less involved, the organisms were located primarily in the dermal glandular structures. Ulceration of the overlying epithelium was a prominent features of the lesion. Observance of individual organisms revealed considerable size variance (4 to 18 microns in diameter) and occasional budding forms. A clear crypt-like space was present around most of the organisms.

Microscopic examination revealed no organisms in the regional lymph nodes.

The lesions on the ventrum of the tail initiated periosteal formation of new bone of the adjacent vertebrae.

The lesions of the nasal cavity involved primarily the ventral turbinate (Fig. 4). Focal submucosal accumulations of organisms similar to the cutaneous lesions were present. Lymphocytes and macrophages were prominent in the surrounding submucosal tissue.

Although the lung appeared normal grossly, there occurred small focal areas of alveolar interstitial thickening with an increased amount of macrophages, neutrophils, and septal cells in the surrounding alveoli. Cryptococcal organisms were demonstrated within the septal cells and interstitial spaces with Gridley's fungus stain (5). Lesions were not found in the liver, spleen, kidney, and brain.

This case of cryptococcosis is unusual because the lesions involved primarily the skin. Although changes described are similar, involvement of the lungs and central nervous system is prominent in other reported cases (1, 2, 3, 4, 6, 7, 8, 9). Strict localization of the organisms within the skin with complete recovery when the skin lesion was surgically removed has been reported (7).

A tentative diagnosis of cryptococcosis may be made by observation of budding, oval, thick walled, encapsulated yeast cells in an India ink stained direct slide mount of exudate (7). A more definitive diagnosis

may be made following histopathologic examination and culture of the lesion.

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New Ketosis—

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supervision of a veterinarian or a county extension agent.

Roy S. Emery, MSU dairy scientist, says the new test was used in a recent study where 130 cows were examined for one month after calving. Milk was collected once per week and assayed for ketone content.

"We were able to detect ketone levels as low as two thousandths of one per cent," Emery points out. "That's less than can be detected by any other known test."

"We were also able to control the disease and boost milk production by feeding the cows propylene glycol at the rate of 12 ounces per day over a 10 day period following the detection of ketosis. Cows that received this compound averaged two pounds more milk per day for 60 days than cows that had the disease but received none of the compound."

Emery explains that propylene glycol is used in human and dog foods and is a relatively inexpensive chemical feed additive. Further studies are planned to evaluate the full effectiveness of the chemical and to determine whether farmers can profitably add it to their dairy cattle ration.